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ABSTRACT

This paper argues that a mix of expertise is required to develop curricula and adapt them successfully to local school districts and outlines the strategies involved in using linking agents or agencies to bridge the gap between research and development (R & D) agencies and local school districts. After an introduction, the second section of the paper describes the roles of the intermediate unit, the linking agent, and the linking agency. Part 3 emphasizes the gap between research and local school districts. The next section defines curriculum, the curriculum planning process, and the roles of the teacher, support staff and resources, the R & D center, and the intermediate unit in curriculum development. The fifth section describes the Pennsylvania School Improvement Program and its attempt to bridge the gap between research and practice. The last section summarizes the position of the intermediate unit's role in curriculum development and how it can provide the linkage system between R & D and local school districts. (Author/IRT)

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BRIDGING THE GAP:

"DEFINING THE ROLE OF RESEARCH AND DEVELOPMENT IN THE MEETING OF LOCAL CURRICULAR NEEDS"

PRESENTED TO THE AMERICAN
EDUCATIONAL RESEARCH ASSOCIATION
APRIL, 1977

BY

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PART I

INTRODUCTION

The purpose of this paper is to outline the position that a mix of expertise is required to develop curricula and adapt them successfully to local school districts. Initially we believed that local school staffs should and could develop suitable curricula on their own. However over the past eight years our attitude has shifted to the position that R & D has an important place in the curriculum improvement process. Our position for this paper is that R & D agencies and local districts must work cooperatively to accomplish this goal. The main thrust of this paper is to outline the strategies that can be utilized in bridging the gap between R & D agencies and local school districts through the utilization of the linking agency and/or linking agents.

The second part of this paper describes the role of the Intermediate Unit and the role of the linking agency and agent and Part Three emphasizes the fact that presently there is a gap between research and local school districts. The next section defines curriculum, the curriculum planning process, the role of the teacher, supporting staff and resources, as well as the role of R & D in curriculum development and the role of the Intermediate Unit. The fifth section describes the Pennsylvania School Improvement Program and its attempt to bridge the gap. The last part will summarize the position of the Intermediate Unit's role in curriculum development and how it can provide the linkage system between R & D and local school districts.

PART II

DEFINING THE ROLE OF THE INTERMEDIATE UNIT

The authority for making educational decisions in the state of Pennsylvania is shared between local school districts and the Pennsylvania Department of Education. Added to this dimension in Pennsylvania is the Intermediate Unit, an educational service agency. The Intermediate Unit is the middle echelon of a three-echelon state education system (local school districts, Intermediate Unit, and state education department), which provides consultative, advisory, or education program services to school districts. The Intermediate Unit provides ancillary services necessary to improve the state system of education. In Pennsylvania there are twenty-nine (29) Intermediate Units, I. U. #5 with offices in Edinboro, Pennsylvania, services three Northwestern Pennsylvania counties of Erie, Crawford and Warren. There are seventeen school districts within the three county area. It is from this background and experience that we are making our comments. The seven mandated services available to the school districts are:

1. Curriculum Development and Improvement - designed to assist classroom teachers in the areas of instructional programs, staff development and inservice education.
2. Educational Planning Services - relating to Pennsylvania's LRP process, assisting local administrators and LRP committees, which involve professional staff and community representatives.

3. Instructional Materials Services - providing classroom teachers and students with a variety of current media materials and instructional tools.

4. Pupil Personnel Services - assisting districts through the use of data-processing services at the area vocational-technical school in scheduling, grading and attendance.

5. Continuing Professional Services - assisting local district teachers, administrators, and board members through seminars, workshops and inservice programs, dealing with current educational problems, regulations and guidelines.

6. State and Federal Agency Liaison Services - providing local districts, administrators, and board members with current legislative interpretations and assisting districts in their application procedures for federal and state exemplary programs.

7. Management Services - providing technical assistance in the area of management and finance to local districts and compiling regional and state surveys.

The Intermediate Units have been in existence for six years and in that time have established a strong working relationship with the Pennsylvania Department of Education and local school districts, providing educational services at the local level, and acting as the linking agency between the Pennsylvania Department of Education and local school districts.

Defining the Role of a Linking Agency and Linking Agent

The linking agency such as an Intermediate Unit, provides local school districts with a variety of services and resources linking the local district to state and federal resources as well as locally established resources i.e. local colleges, universities, private agencies and the community at large. Within the Intermediate Unit structure the entire staff functions as linking agents working closely with local districts, administrators, board members, classroom teachers, students and community members. The following list, although certainly not all encompassing gives a general picture of the types of competencies the linkage agent should possess:

1. Knowledgeable in identifying available resources
2. Knowledgeable of local needs and capabilities, constraints, and the power base
3. Possess strong organizational skills
4. Must be able to work within the framework of the existing employing agency, i.e. Intermediate Unit structure
5. Have appropriate communication skills, i.e. the ability to translate R & D information into implementation strategies

6. Knowledgeable in the "Change Process"
7. Be able to utilize alternative methods for collecting data
8. Be knowledgeable in group process skills
9. Be able to work with existing "site" personnel, instructional, supervisory and administrative
10. Have a general understanding of the subject matter content and knowledgeable in curriculum development processes
11. Be knowledgeable in needs assessment strategies - developing and implementing

Lawler further states the responsibilities of the curriculum worker at the linking agency level could do the following:

1. Provide resource assistance
2. Participate in problem definition
3. Free the group (teachers) to carry on curriculum study, e.g. financial support
4. Provide coordination
5. Assist the principal
6. Provide released-time for teachers
7. Facilitate continuity in personnel
8. Provide clearing lines of communication

The responsilibities described above are in reality those of the linkage agency and specifically the linkage agents. They are skills needed to begin to bridge the gap between R & D agencies and local school districts.

PART III

"GAP" BETWEEN R & D AGENCIES AND LOCAL SCHOOL DISTRICTS

Dissemination Problem of R & D Products and Resources

In Education Daily, February 9, 1977 an NIE study pointed out that the problems of dissemination lie in conflicting and confusing federal education legislation and regulations, and make it practically impossible to do a coordinated job of getting the word out on successful educational practices and products. The product of a year's investigation by the Interstate Project on Dissemination (IPOD), a group of professional educators in charge of distributing information about programs for state education agencies, the study identifies a total of 208 "dissemination" requirements in legislation and program regulations. In those 208, IPOD found neither a definition of "dissemination" nor evidence that the term was used with any consistent meaning. At the same time, IPOD found that a large number of federal laws authorizing research or development activities do not mandate dissemination. And if they do, says IPOD, the requirements are often absent or unclear in the accompanying regulations.[1]

Relative to this gap, in 1974 Contemporary Research Incorporated (CRI) outlined in a "Working Paper for the NIE Conference on increasing the use of Promising Practices Information" the following key factors on how the use of promising practices might increase:

1. The concept that locally developed practices and programs are of significant value to many other schools with similar needs, as much or more so than commercial or R & D educational products.

2. The demand for practical "field tested" programatic solutions to educational needs on the part of local educators.
3. Dissatisfaction with the linear Research, Development, Diffusion Model that has been commonly used in much national programming. The lack of interaction in this model, and its "trickle down" approach makes it particularly unable to be responsive to local school districts needs.
4. A growing awareness of the need to examine all educational practices in terms of their impact on students, and of the problems facing local schools in gathering such evaluative data about their own promising practices.
5. Research, particularly by Havelock and others at the Center for Research on Utilization of Scientific Knowledge,on the realities of knowledge utilization by local schools, identifed the need for "linkage" if information was to be utilized, and genuine change to occur.
6. The growth of information systems technology for sharing educational research, which has raised the demand for user oriented information services.

7. Change and growth in the roles of State Departments of Education, with information dissemination becoming a recognized function within a more general concept of technical assistance or "diffusion".

8. General movement away from the concept of wholesale replication, to adaptation of any outside programs and practices to local needs and constraints.[2]

Oliver has described additional rationale in explaining the gap between the researcher and practitioner:

1. Too long a time elapses between the time the study is set up and the results are made available for teachers facing everyday situations.

2. The requirements of precision and qualification, although they may make the research "rigorous" by their inflexibility are not of help in a fluid situation.

3. Many research studies are inaccessible to the teacher, because the findings may be confined to an unpublished dissertation or a report to a particular committee, agency or foundation.

4. The value of the process comes chiefly to those who do the investigating; thus, the teacher, as an observer, derives less benefit than he would if he were an involved participant.

5. The technical language, the formidable statistical tables, and the formulas in a formal research study present communication barriers to the novice.[3]

Additional substantiation on why there appears to be a gap between local school districts and R & D agencies can be drawn from the Technical Proposal "R & D Utilization Proposal" presently being funded by NIE. This project drew from a variety of resource people such as Alkin, Fink, Buckell, Fraser, Gow, Havelock and Hutchins. The writers of the "Pennsylvania School Improvement Project" drew from their expertise and documented the following concerns:

1. People will use the information most readily available, whether or not it fully meets their needs. Practitioners (classroom teachers) prefer succinct non-technical information and if possible, first hand observation.
2. Interpersonal Communication - people to people interaction - is the most important factor in effective dissemination. The human element is critically important in efforts to link research to practice.
3. Educational innovations are seldom, if ever "adopted". A process of mutual adaptation occurs in which both the innovation and the local situation undergo changes. If viewed as necessary and healthy, this process can deliberately be made to work for the desired improvement.

4. Resistance to change is firmly entrenched and lies at both the rational and emotional levels. People change because the change is rewarding to them personally, to their group, or to their institution - processes leading to successful innovation must have payoff value to all parties concerned.

5. Successful implementation requires early involvement of those to be affected and those who will share responsibility for carrying out the innovation.

6. In all fields knowledge utilization occurs most frequently and most readily when there are open collaborative relations among researchers and developers "linkers" such as LEA's, Intermediate Unit's and teacher education personnel, and the ultimate users of client groups.[4]

These concerns were taken into consideration when the RFP was developed and presented for funding to the NIE. The Pennsylvania School Improvement Program will be explained in greater detail in Part Five, but at this point it is interesting to note, that after six months of activities with the local school districts, it is quite evident there is a gap between Researchers and Practitioners. Classroom teachers in one of the districts are presently utilizing two R & D products in their classrooms, the Wisconsin Design and SARI management systems but do not identify these products as R & D outcomes. It is one of the goals of the project to have local districts select and implement R & D outcomes.

In addition, it should be pointed out that local school districts are limited in their capacity to become involved in new and innovative programs because of the present financial straitjacket in which they find themselves. Coupled with this is the public outcry for accountability in education, the back to basic's movement and declining school enrollments. Dr. Conrad Toepfer has noted that in hindsight, we can now see a rhetoric urging more money for increasing the quality and effectiveness of education would have served the needs of curriculum much better in times of both an expanding economy and growth population as well as declining birthrate and non-growth. To switch positions and demand increased monies to maintain school programs in this time of national fiscal unrest has already proven largely unsuccessful in gaining public support. He goes on to say, that perhaps, our greatest gain from the current economic problems in education may come from more districts recognizing the need to develop cooperative, systematic curriculum development procedures that will involve students, lay citizenry, teachers and administrators. This, coupled with the public acceptance of new logic and possibly a different base for the financial support of education, would be an admirably positive resolution of our present dilemmas.[5] To further close this gap and to bring about systematic curriculum planning, there is a definite cooperative role for R & D and a linking agency that will support this endeavor.

PART IV

CURRICULUM DEVELOPMENT - A COOPERATIVE VENTURE BETWEEN R & D AGENCIES AND LOCAL SCHOOL DISTRICTS

Defining the Curriculum

If curriculum development is to be a cooperative venture between R & D agencies and local school districts the following concerns must be addressed:

1. How is the curriculum to be defined?
2. What is the developmental process?
3. What is the role of the teacher and principal?
4. Is there a need for a comprehensive approach to curriculum planning?
5. What is the role of the curriculum council?
6. How should the linking agency and R & D agencies coordinate their activities to assist local districts?

Depending on whose viewpoint or theory you support curriculum can be defined in many ways, all interelating to the overall concept of an educational program. Saylor and Alexander have defined curriculum as encompassing all the learning opportunities provided by the school. They go on to say that it is more precisely the total series of learning opportunities provided by a particular school for its own population.[6] Albert Oliver in his book Curriculum Improvement - A Guide to Problems Principles and Procedures points out that the curriculum can be:

1. All the experiences the child has regardless of where or how they take place.
2. All the experiences the learner has under the guidance of the school.
3. All the courses which a school offers.
4. The systematic arrangement of certain courses designed for certain pupil purposes e.g. college preparatory curriculum.[7]

Edward Krug has defined curriculum as the orderly study and improvement of schooling in light of objectives.[8] Regardless of which definition is used it can be readily seen that the curriculum should be broad based, comprehensive and guided by the needs of the learner. For the purpose of this paper Saylor and Alexander's definition will be the point of reference - Curriculum encompasses all the learning experiences provided by a particular school for its own population.

Curriculum Planning

It is also necessary as a segment of this cooperative curriculum venture to develop an understanding of the curriculum planning process. Harnack has listed four components, which are an integral part of the curriculum planning process. They are:

1. Have group involvement and concensus (the democratic process)
2. Use expert knowledge (R & D)
3. Develop and execute specific plans
4. Appraise plans of action (evaluate)[9]

Saylor and Alexander have described curriculum planning as the process whereby these arrangements of learning opportunities or curriculum plans are created - curriculum planning is essentially a process of making decisions about the curriculum.[10] Edward Krug states that curriculum planning should be (1) comprehensive (K-12), (2) continuous (ongoing), (3) cooperative (involving all segments of society), and (4) concrete (exhibit relevance based on the needs of the learners).[11]

It is obvious to the writers that curriculum planning is a complex process not to be taken lightly and definitely not to be attempted in isolation. There is a role for all participants at the local level while continuously integrating the best that R & D has to offer. The question appears not to be, should R & D agencies work with local school districts, but how can this be accomplished within the systematic curriculum planning process.

It is our feeling that R & D agencies are not geared to work with local districts except during the pilot-developmental phase. The tremendous number of school districts in the country that need continuous supportive help related to implementing R & D products makes the task unmanageable. However this task can be facilitated, i.e. the gap can begin to be closed, through the linkage agency concept.

To work within this curriculum planning structure it is our belief that the linkage agency should focus its major efforts on the classroom teacher, the most important decision maker and curriculum planner. For example our Intermediate Unit as a linkage agency, through planned inservice education efforts, mini-projects, utilization of Computer Based Resource Units in Career Education, and Corrective Reading has seen that many innovations within a school district or school building

have revolved around the classroom teacher. In our opinion the teacher is the key person in the change process within an educational institution. This is not to say that leadership at the principal or central office level is not necessary. The administrative leadership of any school district or school building must be dynamic and willing to promote change from within the district, and encourage planned change within the classroom structure. Much more remains to be said about this topic however, it is not within the scope of this paper.

Dr. Robert Harnack in his book The Teacher: Decision Maker and Curriculum Planner points out that today education indicates the obvious: teachers have a firmer base upon which to make choices for a learner. In fact, with the steady growth of innovations (basically related to professional knowledge), there is a tremendous amount of knowledge that is known by the teacher, that assists him to make intelligent decisions related to curriculum planning. His decisions, revolve around the screening and selection of instructional objectives, the identification and organization of subject matter, the selection of instructional techniques and materials, and the selection of measuring devices to help him realize whether or not the objectives were accomplished.[12]

In this context the Intermediate Unit views itself as the linking agency, working with administrators and classroom teachers, developing the linkage system in order to better work with the State Department of Education and R & D Agencies. Within the Pennsylvania School Improvement Program this linkage system has become operational through the Intermediate Unit linking agent and the role that he or she plays between classroom teachers and the agencies.

The next step and a very important one is to implement the curriculum planning process at the local level. Whether this process falls under the title and structure of an educational council or curriculum council, key elements should be considered. The size, type of representation, and decision making power of the group should be clearly defined. A district wide curriculum council should include representatives of boards, teachers, students, administrators and the community. A curriculum council might provide for the following:

1. A forum for reviewing the existing program.
2. A forum for discussing proposed curriculum changes.
3. A forum for considering and determining which suggestions make sense for a district.
4. A vehicle for open communication.
5. Foster coordination and articulation of instructional programs.
6. Have access to available regional state and national resources (I.U., PDE, R & D agencies).

This council could help set goals, assess needs, establish priorities and develop strategies for meeting identified needs. The role of the Intermediate Unit would be to act as a resource to this council, possibly serving as an ex-office member. Thus providing the first step in the linkage function. This linker role is extremely important and in our opinion begins to bridge the gap. It is also through this linkage system the R & D agencies could play an integral part in the curriculum planning process. In other words, through the linker R & D moves closer to the practitioner.

Communication will begin to flow in two directions. Taking these factors into consideration, it must then be determined what is the role of research in the curriculum development process. Saylor and Alexander have indicated that research effects curriculum decisions in the following ways:

1. Sound proposals presented for consideration by curriculum planners should be based on research or there are hypothesis to be tested by actual tryout in the school program.
2. Those who engage in curriculum planning can do their jobs more efficiently if they are aware of, or at least review, studies of the available research relating to their ideas for curriculum change.
3. In the negative way, curriculum planning is frequently adversely affected by the absence of research to justify existing practices.[13]

As the impact of research on classroom teaching is studied, Robert Travers points out that research has influenced education principally through (a) the design of classroom materials (b) conceptualizing the nature of the human learner, and in (c) the solution of particular problems. Travers goes on to say that John Dewey long ago recognized that research could not provide a cookbook for solving problems in practical fields. The bridge designer uses Newtonian principles as a general guide to the solution of design problems, but the Newtonian

principles do not provide very direct answers to the question he or she may ask. In the same way Piaget's description of the development of logical behavior in children can provide a very general framework. Piaget's findings have to be used in the context of the problems that children encounter, and the problems of children in Northwestern Pennsylvania may be very different from those that children encounter in a large urban area.[14] Therefore it is increasingly evident that R & D outcomes, product or process, must be adapted to meet local needs and this process can facilitate through a linking agency.

Mauritz Johnson in the ASCD publication Educational Leadership states that the qualifications that are obviously required to conduct the kinds of study which might generate the understandings needed for more intelligent curriculum development more or less dictate who must conduct them. It is not a task for which most practitioners - teachers, administrators, or curriculum directors are either qualified or have time. Nor are they expected to do it. Practitioners are accountable for four things: (1) knowing the best current educational practices and their rationales, (2) acquiring the competence to carry them out, (3) using sound judgement as to what should be done under particular circumstances, and (4) doing it. They are not accountable for long term research; this does not preclude their carrying out curriculum research if they have the competence and interest. More appropriately however, Johnson points out that practitioners can contribute to curriculum research by identifying researchable problems, using research findings in development, and cooperating in studies designed and directed by others. These others may be full-time researchers associated with an institute or laboratory.[15]

The concern pointed out in this part offers a real challenge to both R & D and a linkage agency. Our experience has indicated a need for some type of change in direction. R & D agencies should continue to develop, implement and market products. What is being suggested is that a linkage be developed between R & D and the local school districts or more specifically the teacher. An example of this linkage is provided in Part V by way of the Pennsylvania School Improvement Program.

PART V

THE PENNSYLVANIA SCHOOL IMPROVEMENT PROGRAM AND ITS ROLE IN BRIDGING THE GAP

The Pennsylvania School Improvement Program has been referred to a number of times throughout this paper. An attempt will now be made to present an outline of the project and point out the salient parts that address the need of bridging the gap and providing a mix of expertise to local school districts.

The project is funded by NIE for two and one half years, beginning July 1, 1976. It involves the Pennsylvania Department of Education, three research agencies, LRDC, RISE and RBS, two intermediate units and ten local school districts.

The general problem to be addressed in this project is improvement of the performance of Pennsylvania students in basic reading and mathematics skills. Evidence of the need for such improvement is provided by the assessment results of the State's Education Quality Assessment program. The proposed Pennsylvania School Improvement Program in Basic Skills will contribute to meeting this need through achievement of its primary objective: to increase the use, within Pennsylvania schools, of practices and programs that have been developed through educational research and development.

An equally important objective of the project is to develop competencies within the linking agencies to enable future activities to be implemented fully and smoothly. Three factors provide support for the notion that state schools can be improved in this way: (1) many schools

have already demonstrated a commitment to solving their basic skills problems through the use of R & D outcomes, (2) validated outcomes are available in the basic skills area, and (3) experience has shown that these outcomes can be successfully installed in local sites with technical assistance and support.

Specific activities directed toward achievement of the project's main objectives will include: (1) assisting target schools in analyzing their basic skills problems, (2) developing a knowledge base of potentially successful outcomes in the area of basic skills and communicating this information to schools in materials tailored to local needs, (3) helping schools select R & D outcomes relevant to their specific problems, and (4) providing technical assistance to schools in implementing the products and practices that they selected.

A secondary objective of the proposed project is to develop further understanding of the dissemination processes that facilitate the use of R & D outcomes in schools. Documentation and evaluation activities will be undertaken to ensure: (1) there is a complete record of each school's efforts to analyze its basic skills problems, to examine and select relevant R & D outcomes, and to adapt and implement the outcomes selected, (2) there are documented accounts of the technical assistance and information services supplied to each school, and (3) there is evidence of the effects of the assistance and services on the participating schools, as well as evidence of the effects of implemented outcomes on student performance.

The use of a team structure has three distinct advantages. First, it links agencies at a staff level--individual staff are working side by side on a common problem in relation to a specific school site. Second, by using staff from each agency who are knowledgeable about the full array of work ongoing in the agency, it ensures that each project team will have knowledge of other work relevant to the problem at hand. Thirdly, such a structure will simplify the management task--when agency staff are working on the project, they are directly accountable to the project director and the appropriate team leader. Finally it is to the advantage of the linking agency, after the removal of the team, to have acquired the necessary skills in order to continue the curriculum development process at the local level.

Linkage Strategies. Five different strategies will be used to assure effective linkages.

Focus on a common problem. One way to provide for effective linkages is to focus the entire effort on a well-defined problem with clearly established criteria for success. Improving the performance of students on EQA basic skills measures is a well-defined problem and provides a clear focus for all institutions and individuals involved in the project.

Direct involvement at the local level. A common reference point for all project activities is another linkage strategy. The School Assistance Team intends to be deeply involved with the local staff at the school site in a number of the proposed project activities.

Coordination. Coordination of the project's activities within each of the different agencies is still another linkage strategy. Each member of the School Assistance Team will appoint a project coordinator with major responsibility for mobilizing an effective organizational contribution to the project. Furthermore, the research agencies will provide all services to the local schools in cooperation with the IU staff assigned to the project. In effect, the IU staff will link all work together at the local school site.

Organizational Commitment. The level of institutional commitment to a cooperative working relationship is an important linkage consideration. This project supplies an opportunity to strengthen informal contacts among a number of State Institutions and each organization has expressed a firm commitment to achieving this goal.

Teaming of Staff. Any linkage strategy ultimately rests on establishing good interpersonal relations. The research staff assigned to this project will frequently work in a team effort on local problem solving tasks. This teaming of staff is designed in part to help develop close people-to-people linkages.

The Intermediate Unit views staff as one of the key elements in this linkage system. The intent is, through on-site training from R & D agency personnel, the Intermediate Unit linking agent will acquire the general knowledge and expertise to assist local districts in this process at the end of the project funding period. This is not to say that the R & D

agencies will not continue to play a role in this process. Through the project, the working relationships developed will continue and R & D agencies will still be able to provide the needed expertise, but not at such a concentrated level as outlined in the project.

PART VI

SUMMARY

The purpose of this paper as identified in the introduction, was to outline a position that one of the best ways to increase R & D agencies' impact on local curriculum development was for them to become a part of a mix of expertise required to develop curricula and adapt them successfully to local school districts. The education community today faces a major challenge in order to become more accountable to the public. Educational change must continue. The financial limitations during this period of non-growth, declining student populations and movement back to basics should not influence the educational community to the point of moving it away from developing innovative programs that meet the needs of the learner today.

Change is necessary in an ever increasing technological society. In order to provide a systematic process for change in curriculum it is suggested that this linkage system be allowed to experiment with the concept outlined in Part V.

This concept will certainly not provide the only answer to the problem, but it may provide us with the opportunity to explore strategies to increase the role of R & D agencies and I.U. type agencies in curriculum improvement. The many problems that originate at the local level are questions of process rather than product. R & D can provide useful input to the extent it can reach local curriculum planners. The linkage agency concept may provide an alternative so that R & D can become an integral part of the curriculum development process at the local level.

FOOTNOTES

[1]Education Daily, (February 9, 1977) p. 3

[2]Contemporary Research Incorporated, "Working Paper and Agenda on Increasing the Use of Promising Practices Information", (Los Angeles: July 14-16, 1974) pp. 1-2

[3]Albert Oliver, Curriculum Improvement: A Guide to Problems, Principles and Procedures, (New York: Dodd, Mead and Company, 1965) p.81

[4]Technical Proposal: R & D Utilization Proposal (First Draft, January 20, 1976) pp. 7-14

[5]Dr. Conrad Toepfer, "Will the Real Curriculum Players Step Forth", Educational Leadership ASCD (Vol. 34, No. 1, October 1976) p. 15

[6]J. Galen Saylor, William Alexander, Curriculum Improvement (New York: Holt Rinehart and Winston, 1965) p.5

[7]Oliver, op. cit., p. 5

[8]Edward Krug, Curriculum Planning (New York: Harper Brother, 1950) p. 8

[9]Robert S. Harnack, The Teacher: Decision Maker and Curriculum Planner (Scranton, PA: International Textbook Company, 1968) p. 49

[10]Saylor and Alexander, op. cit., p. 5

[11]Krug, op. cit., p. 13

[12]Harnack, op. cit., p. 11

[13]Saylor and Alexander, op. cit., p. 34

[14]Robert M. Travers, "Impact of Research on Classroom Teaching", Education Leadership: Curriculum Inquiry; Implications for Teaching, (ASCD Vol. 33, No. 7, April 1976) p. 50

[15]Mauritz Johnson, "Needed Research: Emphasis on the Future", Educational Leadership: Curriculum Inquiry; Implications for Teaching, (ASCD, Vol. 33, No. 7, April, 1976) p. 507

BIBLIOGRAPHY

Alexander, William M., Saylor, Galen J., Curriculum Planning for Modern Schools, New York, Holt, Rinehart and Winston. 1966.

Alkin, Marvin C., Fink, Arlene, "Evaluation Within the Context of Product Development: A User Orientation," in Gary D. Bouch (Ed.), Evaluating Educational Programs and Products. Educational Technology Publications, Engelwood Cliffs, N.J., 1974.

Bucknell, H. M. "Appraising the Effects of Innovations in Local Schools." R. W. Tyler (Ed.) Educational Evaluation: New Roles New Means, 68th Yearbook N. S. S. E., University of Chicago Press, Chicago, 1969.

Crery, Ryland, Humanizing the School Curriculum: Development and Theory, New York, Kropf. 1969.

Doll, Ronald C., Leadership to Improve Schools, Worthington, Ohio, Charles Jones Publishing Company, 1972.

Fraser, Dorothy McClure, "Guidelines for Your Curriculum Committee", The Instructor LXXIII #6, 1964. p. 7.

Gow, Doris T., "The Use of Hierarchies as Tools in the Analysis and Evaluation of Curricula", paper presented at the American Educational Research Association annual meeting. Washington, D.C., April, 1975a.

Gow, Doris T., "A Curriculum Analysis of Individualized Science", unpublished paper, Learning Research and Development Center, Pittsburgh, November, 1975b.

Harnack, Robert S., The Teacher: Decision Maker and Curriculum Planner, Scranton, Pennsylvania, International Textbook Company, 1968.

Havelock, R. G., et. al, Planning for Innovation Through Dissemination and Utilization of Knowledge, Center for Research on Utilization of Scientific Knowledge, Ann Arbor, 1973.

Hutchins, C. L. "A Concept Paper for the School Practice and Service Division", unpublished paper, NIE, Washington, April 24, 1975.

Krug, Edward, Curriculum Planning, New York, Harper and Brothers, 1950.

Oliver, Albert I., "A Guide to Problems, Principles, and Procedures", Curriculum Improvement, New York, Dodd, Mead and Company, 1965.

Rogers, Everett M., Diffusion of Innovations, New York, The Free Press, 1962.

Shuster, Albert H., Plaghoft, Milton E., The Emerging Elementary Curriculum, Columbus, Ohio. Charles E. Merrill Publishing Company, 1970.

Bibliography Con't.

PERIODICALS

Bartoo, Eugene, "Who is the Curriculum Worker", Curriculum Leaders: Improving Their Influence, ASCD, (1976.)

Johnson, Mauritz, "Needed Research: Emphasis on the Future", Curriculum Inquiry: Implications for Teaching, Educational Leadership, ASCD, Vol. 33, No. 7, (April 1976.)

Klein, M. Francis, "Tyler and Goodlad Speak on American Education: A Critique", Educational Leadership, Vol. 37, No. 8, (May 1976.)

Toepfer, Conrad, "Will the Real Curriculum Players Step Forth", Educational Leadership, Vol. 34, No. 1, (October 1976.)

Travers, Robert M. W., "Impact of Research on Classroom Teaching", Curriculum Inquiry: Implications for Teaching, Educational Leadership, ASCD, Vol. 33, No. 7, (April 1976.)